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United States Patent

[19]

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- [54] **METHODS FOR INDUCING SITE-SPECIFIC IMMUNOSUPPRESSION AND COMPOSITIONS OF SITE SPECIFIC IMMUNOSUPPRESSANTS**

- [75] Inventors: **Charles W. Hewitt**, 698 Tranquility Turn, Marlton, N.J. 08053; **Kirby S. Black**, 13401 Sussex Pl., Santa Ana, Calif. 92705

- [73] Assignees: **Charles W. Hewitt**, Marlton, N.J.; **Kirby S. Black**, Acworth, Ga.

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Related U.S. Application Data

- [63] Continuation-in-part of Ser. No. 879,889, May 7, 1992, abandoned, which is a continuation of Ser. No. 637,056, Jan. 3, 1991, abandoned, which is a division of Ser. No. 318,676, Mar. 3, 1989, Pat. No. 4,996,193.

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- [58] **Field of Search** 424/435, 427, 424/434, 449; 514/9, 11, 43, 252, 258, 291, 323, 368, 614

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Primary Examiner—Gollamudi S. Kishore
Attorney, Agent, or Firm—Robbins, Berliner & Carson

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ABSTRACT

The present invention provides methods and formulations for site-specific immune suppression of immune/inflammatory responses with localized or topical application of immunosuppressants including cyclosporines, rapamycins (RPM), or combinations of immunosuppressants and anti-inflammatory compounds. Methods for the use of said formulations to effect site-specific immune suppression of local inflammatory/immune responses in mammalian tissue and for treatment of autoimmune, T-cell mediated immune disease, inflammatory conditions, inhibition of contact hypersensitivity, and for producing prolonged skin allograft survival, and wound healing are presented. In addition, methods for use of said formulations—in tandem with systemic applications of immunosuppressant such as cyclosporine or without same—are presented. The present invention also relates to alternative formulations and delivery systems for the efficacious treatment of the aforementioned conditions.

9 Claims, 18 Drawing Sheets